

DOE Workbook

CONDUCTING ACCIDENT INVESTIGATIONS

REVISION O

July 26, 1996

U.S. Department of Energy
Washington, D.C. 20585

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Foreword

The Office of the Deputy Assistant Secretary for Oversight has prepared this workbook as part of its continuing effort to enhance the quality and consistency of oversight activities. The workbook describes the process and principal activities for conducting accident investigations, in accordance with DOE Order 225.1, *Accident Investigations*, and its accompanying Implementation Guide.

The process described herein should be used as guidance, not as a mandate. Accident investigation board members and those supporting investigations should apply the process, as necessary, to ensure that effective investigations are conducted.

Beneficial comments (recommendations, additions, deletions) and any pertinent data that may improve this document should be sent to the Office of Security Evaluations, Office of the Deputy Assistant Secretary for Oversight.

Introduction

The purpose of this workbook is to provide those responsible for conducting accident investigations with practical, detailed advice on conducting these investigations. The material in this workbook parallels information in the U.S. Department of Energy (DOE) *Implementation Guide for Use with DOE Order 225.1* (which explains how to meet the requirements and responsibilities of DOE Order 225.1, *Accident Investigations*). But the workbook provides more in-depth guidance, as well as specific tools and techniques, that will facilitate the investigation process. It is designed primarily for use by DOE accident investigation boards (board chairpersons and board members) and their support staff (consultants, advisors, and administrative staff). However, field and program office points of contact for accident investigations will also find this workbook useful in preparing for and supporting accident investigations.

This workbook is intended to:

- Provide more detailed information and guidance for the subjects addressed in the *Implementation Guide for Use with DOE Order 225.1*
- Serve as a reference source for conducting investigations
- Support training in accident investigation processes.

The workbook does not introduce or impose any requirements not addressed in DOE Order 225.1. Users have the latitude to choose whether and how to apply the procedures, methodologies, and techniques presented here. Alternative approaches

and methods that effectively implement the requirements of DOE Order 225.1 are acceptable.

This workbook is divided into two parts. Part I covers background information those involved in accident investigations need to know before they begin an investigation. Included in Part I are:

- Accidents: General Principles (*Section 1*)
- DOE's Accident Investigation Program (*Section 2*).

Part II describes the detailed, step-by-step DOE process for conducting accident investigations, including specific tools and techniques that have proven effective on previous investigations. Part II covers:

- Appointing the Investigation Board (*Section 3*)
- Implementing Site Readiness (*Section 4*)
- Managing the Accident Investigation (*Section 5*)
- Collecting Data (*Section 6*)
- Analyzing Data (*Section 7*)
- Developing Conclusions and Judgments of Need (*Section 8*)
- Reporting Results (*Section 9*).

A glossary and list of references are included in Appendices A and B. Appendices C and D list specific administrative needs and DOE's principles of safety management.